Attorney Docket No. 5308-248 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Saxler et al.
Serial No.: 10/617,843
Filed: July 11, 2003
For: NITRIDE-BASED TRANSISTORS AND METHODS OF FABRICATION THEREOF USING NON-ETCHED CONTACT RECESSES

Group Art Unit: 2811
Examiner: To Be Assigned
Confirmation No.: 7985

Date: February 11, 2004

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

THIRD INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. § 1.97(b)

Sir:

Attached is a list of documents on Form PTO-1449, together with a copy of any listed foreign patent document and/or non-patent literature. A copy of any listed U.S. patent and/or U.S. patent application publication is not provided herewith in accordance with the waiver by the U.S. Patent and Trademark Office of requirements under 37 C.F.R. § 1.98(a)(2)(i) for all U.S. national patent applications filed after June 30, 2003 and for all international applications that have entered the national stage under 35 USC § 371 after June 30, 2003.

It is requested that these documents be considered by the Examiner and officially made of record in accordance with the provisions of 37 C.F.R. § 1.56 and Section 609 of the MPEP. No fee is believed due. However, the Commissioner is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-0220.

Respectfully submitted,

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Candi L. Riggs

FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office	Attorney Docket Number 5308-248	Serial No. 10/617,843
LIST OF DOCUMENTS CITED BY APPLICANT (Use several sheets if necessary)	Applicants: Adam William Saxler et al.	
	Filing Date: July 11, 2003	Group 2811

U. S. PATENTS & PATENT APPLICATION PUBLICATIONS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
	1.	4,424,525	1/3/84	Mimura	357	23	
	2.	4,471,366	9/11/84	Delagebeaudeuf et a.	357	16	
	3.	4,727,403	2/23/88	Hilda et al.	357	22	
	4.	4,788,156	11/98	Stoneham et al.	438	167	
	5.	5,946,547	8/7/90	Palmour et al.	156	643	
	6.	5,192,987	3/9/93	Khan et al.	257	183.1	
	7.	5,200,022	4/6/93	Kong et al.	156	612	
	8.	5,210,051	5/11/93	Carter, Jr.	437	107	
	9.	5,292,501	3/8/94	Degenhardt et al.	424	49	
	10.	5,296,395	3/22/94	Khan et al.	437	40	
	11.	Re. 35,861	2/14/95	Davis et al.	437	100	
	12.	5,393,993	2/28/95	Edmond et al.	257	77	
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	14.	5,701,019	12/23/97	Matsumoto et al.	257	192	
	15.	5,705,827	1/6/98	Baba et al.	257	46	
	16.	5,885,860	3/99	Weitzel et al.	438	179	
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	18.	6,177,685	1/23/01	Teraguchi et al.	257	20	
	19.	6,218,680	4/17/01	Carter, Jr. et al.	257	77	
	20.	6,639,255	10/03	Inoue et al.	257	194	
	21.	2001/0015446	8/23/01	Inoue et al.	257	192	

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation Yes | No
	22.	JP02002016087	1/18/02	Japan			
	23.	JP02001230407	8/24/01	Japan			

EXAMINER _____ DATE CONSIDERED

*EXAMINER Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office LIST OF DOCUMENTS CITED BY APPLICANT (Use several sheets if necessary)	Attorney Docket Number 5308-248	Serial No. 10/617,843
	Applicants: Adam William Saxler et al.	
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	24.	WO03/049193	6/12/03	PCT			

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	25.	Chu et al., "GaN materials for high power microwave amplifiers," Mat Res. Soc. Symp. Proc., Vol. 512 (1998)
	26.	Eastman et al., "Undoped AlGaN/GaN HEMTs for Microwave Power Amplification, "*IEEE Transactions on Electron Devices*. Vol. 48, No. 3, March 2001, p. 479-85.
	27.	G. Sullivan et al., "High Power 10-GHz Operation of AlGaN HFETs in Insulating SiC," IEEE Electron Device Letters, Vol. 19, No. 6, p. 198, June 1998
	28.	Gaska et al., "Electron transport in AlGaN-GaN heterostructures grown on GH-SiC substrates," Applied Physics Letters, Vol. 72, No. 6, February 9, 1998, pp. 707-709
	29.	Gaska et al., "High-Temperature Performance of AlGaN/GaN HFETs on SiC Substrates," IEEE Electron Device Letters. Vol. 18, No. 1, p. 492, October 1997
	30.	Gelmont et al., "Monte Carlo simulation of electron transport in gallium nitride," J. Appl. Phys., Vol. 74, No. 3, August 1, 1993, pp. 1818-1821
	31.	Heikman et al., "Growth of Fe doped semi-insulating GaN by metalorganic chemical vapor deposition," Applied Physics Letters, Vol. 81, No. 3, July 15, 2002, pp. 439-441
	32.	International Search Report, PCT/US02/09398, August 20, 2002
	33.	P.M. Asbeck et al., "Piezoelectric charge densities in AlGaN/GaN HFETs," Electronics Letters, Vol. 33., No. 14, pp. 1230-1231, 1997
	34.	Ping et al., "DC and Microwave Performance of High-Current AlGaN/GaN Heterostructure Field Effect Transistors Grown on P-Type SiC Substrates," IEEE Electron Letters. Vol. 19, No. 2, p. 54, February 1998
	35.	Sheppard et al, "Improved 10-GHz Operation of GaN/AlGaN HEMTs on Silicon Carbide," *Materials Science Forum*. Vols. 338-342, pp. 1643-6. (2000)
	36.	Sheppard et al., "High Power Demonstration at 10 GHz with GaN/AlGaN HEMT Hybrid Amplifiers." Presented at the 58th DRC, Denver, CO June 2000.
	37.	Sheppard et al., U.S. Patent Application Serial No. 09/096,967 entitled, *Nitride Based Transistors on Semi-Insulating Silicon Carbide Substrates*, filed June 12, 1998.
	38.	Wu et al., "High Al-Content AlGaN/GaN MODFET's for Ultrahigh Performance," IEEE Electron Device Letters, Vol. 19, No. 2, p. 50, February 1998

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